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## **Elbilsdrift – Konduktiv laddning – Del 24: Digital kommunikation mellan laddningsstation och fordon vid laddning med likström**

*Electric vehicle conductive charging system –  
Part 24: Digital communication between a d.c. EV charging station  
and an electric vehicle for control of d.c. charging*

Som svensk standard gäller europastandarden EN 61851-24:2014. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61851-24:2014.

### **Nationellt förord**

Europastandarden EN 61851-24:2014

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61851-24, First edition, 2014 - Electric vehicle conductive charging system - Part 24: Digital communication between a d.c. EV charging station and an electric vehicle for control of d.c. charging**

utarbetad inom International Electrotechnical Commission, IEC.

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English Version

**Electric vehicle conductive charging system - Part 24: Digital communication between a d.c. EV charging station and an electric vehicle for control of d.c. charging  
(IEC 61851-24:2014)**

Système de charge conductive pour véhicules électriques -  
Partie 24: Communication digitale entre la borne de charge  
à courant continu et le véhicule électrique pour le contrôle  
de la charge à courant continu  
(CEI 61851-24:2014)

Konduktive Ladesysteme für Elektrofahrzeuge - Teil 24:  
Digitale Kommunikation zwischen einer  
Gleichstromladestation für Elektrofahrzeuge und dem  
Elektrofahrzeug zur Steuerung des  
Gleichstromladevorgangs  
(IEC 61851-24:2014)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

The text of document 69/273/FDIS, future edition 1 of IEC 61851-24, prepared by IEC/TC 69 "Electric road vehicles and electric industrial trucks" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61851-24:2014.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-01-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-04-11

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## Endorsement notice

The text of the International Standard IEC 61851-24:2014 was approved by CENELEC as a European Standard without any modification.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61851-1	2010	Electric vehicle conductive charging system - Part 1: General requirements	EN 61851-1	2011
IEC 61851-23	2014	Electric vehicle conductive charging system - Part 23: D.C. electric vehicle charging station	EN 61851-23	2013
ISO/IEC 15118-1		Road vehicles – Vehicle to grid communication interface - Part 1: General information and use-case definition	-	-
ISO/IEC 15118-2		Road vehicles – Vehicle to grid communication interface - Part 2: Technical protocol description and open systems interconnections (OSI) layer requirements	-	-
ISO/IEC 15118-3		Road vehicles - Vehicle to grid communication - interface - Part 3 Physical layer requirements		-
ISO 11898-1	2003	Road vehicles - Controller area network (CAN) - Part 1: Data link layer and physical signalling	-	-
ISO 11898-2	2003	Road vehicles - Controller area network (CAN) - Part 2: High-speed medium access unit	-	-

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRIC VEHICLE CONDUCTIVE CHARGING SYSTEM –****Part 24: Digital communication between a d.c. EV charging station and an electric vehicle for control of d.c. charging**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61851-24 has been prepared by IEC technical committee 69: Electric road vehicles and electric industrial trucks.

The text of this standard is based on the following documents:

FDIS	Report on voting
69/273FDIS	69/280/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61851 series, published under the general title *Electric vehicle conductive charging system*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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## INTRODUCTION

The introduction and commercialisation of electric vehicles has been accelerated in the global market, responding to the global concerns on CO<sub>2</sub> reduction and energy security. Concurrently, the development of charging infrastructure for electric vehicles has also been expanding. As supplementary system of a.c. charging system, d.c. charging is recognized as an effective solution to extend the available range of electric vehicles, and different d.c. charging systems are being used over the world. The international standardization in terms of charging infrastructure including d.c. charging systems is indispensable for the diffusion of electric vehicles, and this standard is developed for the manufacturers' convenience by providing general specifications for control communication protocols between off-board d.c. charger and electric vehicles.

## **ELECTRIC VEHICLE CONDUCTIVE CHARGING SYSTEM –**

### **Part 24: Digital communication between a d.c. EV charging station and an electric vehicle for control of d.c. charging**

#### **1 Scope**

This part of IEC 61851, together with IEC 61851-23, applies to digital communication between a d.c. EV charging station and an electric road vehicle (EV) for control of d.c. charging, with an a.c. or d.c. input voltage up to 1 000 V a.c. and up to 1 500 V d.c. for the conductive charging procedure.

The EV charging mode is mode 4, according to IEC 61851-23. The charging station supplied by high voltage a.c. supply is not covered by this standard.

Annexes A, B, and C give descriptions of digital communications for control of d.c. charging specific to d.c. EV charging systems A, B and C as defined in Part 23.

#### **2 Normative references**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61851-1:2010, *Electric vehicle conductive charging system – Part 1: General requirements*

IEC 61851-23:2014, *Electric vehicle conductive charging system – Part 23: DC electric vehicle charging station*

ISO/IEC 15118-1<sup>1</sup>, *Road vehicles – Vehicle to grid communication interface – Part 1: General information and use-case definition*

ISO/IEC 15118-2:—<sup>1</sup>, *Road vehicles – Vehicle to grid communication interface – Part 2: Technical protocol description and open systems interconnections (OSI) layer requirements*

ISO/IEC 15118-3:—<sup>1</sup>, *Road vehicles – Vehicle to grid communication interface – Part 3 Physical layer requirements*

ISO 11898-1:2003, *Road vehicles – Controller area network (CAN) – Part 1: Data link layer and physical signalling*

ISO 11898-2:2003, *Road vehicles – Controller area network (CAN) – Part 2: High-speed medium access unit*